

Claims:

- add
A1
1. A method of verifying a financial transaction comprising:
receiving via a digital wireless network a merchant financial verification request in a first format;
5 identifying that the request is in the first format;
converting the request to a second format; and
after converting, analyzing the request to determine whether to transmit an authorization message.
 - 10 2. The method of claim 1 including generating an authorization message in the second format, and converting the message to the first format for transmission via the network.
 - 15 3. The method of claim 1 including a user engaging in the steps of:
inputting transaction information to an input device,
converting the information to a signal in the second format,
converting the signal in the second format to a signal in the first format, and
transmitting the signal to the network.
 - 20 4. The method of claim 3 including the user converting a reply signal from the network from the first format to the second format, and from the second format to a text format.
 - 25 5. The method of claim 1 including the steps of:
providing a wireless remote communication apparatus ("RCA") having a vocoder for transmitting and receiving human voice content over a voice channel of the digital wireless communication network;
providing a call receiver apparatus ("CRA") also capable of transmitting and receiving human voice content over a voice channel of the digital wireless communication network;
defining one or more control codes reserved for communication control signaling over

the voice channel, each control code comprising one or more alpha-numeric characters;

establishing a digital voice channel connection between the RCA and the call receiver apparatus CRA;

in a first one of the RCA and the CRA, selecting one of the communication control codes for transmission to the other one of the RCA and the CRA;

in the first one of the RCA and the CRA, converting the selected control code into an audio tone representation;

in the first one of the RCA and the CRA, formatting the audio tones in a vocoder so as to form digital transmission data;

in the first one of the RCA and the CRA, transmitting the digital transmission data over the digital voice channel connection to the other one of the RCA and the CRA; and

in the other one of the RCA and the CRA, detecting the control code to effect control signaling transparently over the voice channel..

6. The method of claim 1 including determining whether an incoming request is in the first format or a different format.

7. The method of claim 1 wherein the merchant financial verification request includes information about a credit card transaction.

8. A wireless financial transaction verification facility comprising:

a transaction information terminal operable to communicate information in a first format;

a converter connected to the recording device and operable to convert information between the first format and a second format;

a wireless communication device connected to the converter and to a digital cellular network, and operable to communicate with the network in the second format.

9. The facility of claim 8 wherein the terminal includes a card scanner.

10. The facility of claim 8 wherein the terminal includes an input device operable for entry of a transaction amount.

11. The facility of claim 8 wherein the terminal includes a display for displaying a received approval status message.

5 12. The facility of claim 8 wherein the converter is a remote communications apparatus for voice and data communication exclusively over the audio traffic channel of a digital wireless telecommunication network comprising:

a source for generating digital data;

10 a tone generation module for encoding the digital data into a series of audio frequency tones; the audio fragment tones being selected so as to avoid frequencies that are characteristic of human voice thereby minimizing interference with simultaneous voice traffic on the channel;

15 a voice/data signal encoder/decoder (vocoder) for sampling the audio frequency tones and forming digital signals for transmission over the digital wireless telecommunication network; and

a transmission system for transmitting the digital signals over the audio traffic channel of the digital wireless telecommunication network.

13. The facility of claim 8 wherein the wireless communication device is a digital cellular telephone.

20 14. A telecommunications system for financial transaction verification comprising:

a digital cellular network;

a financial verification facility having a central converter connected to the network, and operable to convert an incoming signal from a first format to a second format; and

25 the facility having a central processor operable to read the signal in the second format and to make a financial determination about transaction information contained in the signal.

15. The system of claim 14 wherein the processor is operable to generate a transaction approval indication response in the second format.

16. The system of claim 14 wherein the central converter is operable to convert an outgoing signal from the second format to the first format.

5 17. The system of claim 14 including a user communication system including a user terminal operable to convert financial transaction information to a signal in the second format, a user converter connected to the user terminal and operable to convert the signal to the first format, and a cellular device connected to the user converter and the network, and operable to communicate the signal in the first format to the call center.

10 18. The system of claim 18 wherein the user converter and the central converter are operably equivalent. *a*

19. The system of claim 14 wherein the user converter is a remote communications apparatus for voice and data communication exclusively over the audio traffic channel of a digital wireless telecommunication network comprising:

15 a source for generating digital data;

a tone generation module for encoding the digital data into a series of audio frequency tones; the audio fragment tones being selected so as to avoid frequencies that are characteristic of human voice thereby minimizing interference with simultaneous voice traffic on the channel;

20 a voice/data signal encoder/decoder (vocoder) for sampling the audio frequency tones and forming digital signals for transmission over the digital wireless telecommunication network; and

a transmission system for transmitting the digital signals over the audio traffic channel of the digital wireless telecommunication network.

25